

Why Spanish Discard information is still not available to be used for some Stocks of Southern Shelf WGHMM?

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Recommendations

Year 2006

At the 93rd Annual Science Conference it was decided that the Working Group on the Assessment of Southern Shelf Stocks of Hake, Monk and Megrin (WGHMM) provides for each stock and fishery also information on discards (its composition and distribution in time and space) and the method used to obtain it. Describe how it has been considered in the assessments.

The 2006 ICES WGHMM Report (ICES, 2006) in point 1.5 about "Recommendations" suggests, that **discard** data should be ready available to the assessment group. However report mentioned in the same paragraph the **discard** data has to be studied before incorporating them to the analysis. The WG recommends the analysis and development of methods for **discard** data estimation, and an overall reconstruction of **discard** data series for their inclusion in the assessment. In Recommendations for Recovery Plan (WGHMM report point 3.6.8) the Group considers that a complete evaluation of the management plan requires more information and/or more explicit modelling regarding also to **discard** data. The Group recommends that a further work have to be carried out to obtain information in these areas together with a deep analysis, aimed to evaluate the potential effects on assessment and management. Also in Annex I of WGHMM Report for Recommendations and Action the 6th section recommend the "Analysis and development of methods for **discard** data estimation and reconstruction of **discard** data series for inclusion in the assessment".

In Appendix 2 about TECHNICAL MINUTES the ICES ACFM Review Group on the Assessment of Southern Stocks of Hake, Monk and Megrin (RGHMM) (July 2006) mentioned in section 2 of Stock Reviews in relation with the Northern stock of hake that no **discard** data is currently included in the assessment, which might be a problem. The RGHMM suggests evaluating numbers at age from **discards** in relation to landings at age or even if incomplete!.

Trying to solve problems in the discard raising procedure, the 2006 Report of the Planning Group on Commercial Catch, Discards and Biological Sampling (PGCCDBS) highlighted the need of a common approach to introduce new initiatives into raising procedures. As a consequence, PGCCDBS convene a workshop with the following terms of reference:

1. To identify and summarise the concerns countries have in relation to raising procedures.
2. To provide an expert statistical group with the information and data needed to provide guidelines for standard protocols for raising discards.

Year 2007

PGCCDBS in 2006 recommended Workshop on Discard Raising Procedures (WKDRP), which took place during days 6-9th February 2007 in San Sebastian, Spain. The terms of reference of the meeting were to:

1. Identify and summarise the concerns countries have in relation to raising procedures.
2. Review the data structures commonly used at a national and international level and agree on a common format for analysis purpose.
3. Apply several raising procedures to a discard dataset made available by different countries and
4. Compare the results between raising methods and fisheries, identifying the advantages and limitations of each procedure.

Conclusions of this WK shown that: **it is necessary to try different procedures (simple, ratio or models) when raising discards and compare the results between procedures. So it is important to follow the Raising Procedure Key (Table 1 from the WKDSP report) to choose a raising procedure specific to each data.**

State of Spanish Discard information

As it was mentioned in previous Workings Documents presented to the WGHMM (Fernandes et. al. 2005; Pérez et. al., 2005) the "Spanish Discard Sampling Programme" was started in 1988, however it does not cover the whole period until the present due to its implementation has depended on several European and national investigation projects which have not had an annual continuity:

| Year | Project |
|-------------|---|
| 1988-1989 | National project (only ICES Sub-areas VI and VII) |
| 1994 | EC Project: Pem/93/005 |
| 1997 | EC Project: 95/ 094 (only ICES Divisions VIIIc and IXa) |
| 1999-2000 | EC Project: 98/095 |
| 2001 | EC Project: 99/063 |
| 2002 | Community Sampling Fishery Programme (DCR). Only Bask fisheries |
| 2003-2006 | Community Sampling Fishery Programme (DCR) |

Spanish discards data on some species were provided to previous WGHMM, but it was not possible to incorporate them in the assessment in a consistent way due to their lack of continuity in time (with the exception of megrim in Sub-areas VI, VII).

All the Spanish data available and presented to the WGHMM were only raised to their respective own landings. This is the ratio estimator discussed by Stratoudakis et al. (1999). Discard estimates raised by effort are also available (González Herraiz, *et al.*, 2006; I., Ruiz *et al.*, 2006) but not for the whole fleet). However, doubt about the accuracy of the total landings for the fleet leads to similar doubt about estimated total discards. Independent estimates of landings and discards by the fleet may be preferred. Nevertheless, Spanish effort information is not always available or accurate and can give conflicting results

As we mentioned previously only landing information is available for all métiers, till now, for some of the Spanish fishery. So it is not possible to obtain different estimation and compare their results and precision.

Also, Spanish landing and effort information is available from logbook form (different to note sales form available till now) since 2003. This information needs to be analysed and to be compared with landing and effort information available for the time being, and decided which one will be used in future workings groups. At the end of this year comparison will be finished and decision will be taken on which data base on landing and effort will be assumed for assessment. This decision could change the Spanish discard estimations obtained since 2003. Waiting for these values it will avoid wasting time trying to compare discard result that could be changed in a close future.

Conclusions

- More raising variables are necessary to obtain discard raised values in order to compare the results and precision between procedures.
- New Spanish logbooks effort and landing information available since 2003 could produce new estimations of discard due to raising procedure.
- Waiting for these values seems a better option than a straight away evaluation with the present results, susceptible to be changed.

References

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Table 1. The Raising Procedure Key 6 process of choosing a method/auxiliary variable to raise sample discards to population level. It also provides a guidance of what to do when there are several suitable procedures and when there is no appropriate procedure.

| Raising Procedure Key | |
|---|--|
| 1. Is the sampling representative (mean length of vessels and mean auxiliary variable sampled compared to the population, see section 4)? | |
| Yes | Raise by trips and go to 2 |
| No | DONØT raise by trips and go to 2 |
| 2. Has the quality of the data used for raising been established (no misreporting and availability, see section 4)? | |
| Yes | Go to 3 |
| No | Go to 6 |
| 3. Are the discard and auxiliary variable linearly related (significant relationship and positive slope)? | |
| Yes | Raise by all variables and go to 4 |
| No | Go to 6 |
| 4. Compare the results of the different raising procedures: | |
| Similar (<10-20% difference) | Go to 5 |
| Dissimilar (>10-20% difference) | Go to 1* |
| | *and find the cause of the difference! |
| 5. Choose a method that is the least biased (trips if applicable, ratio if regression passes through origin or variable with less concerns) and most precise (compare CVs). | |
| 6. When there is no suitable raising procedure then identify the problem, identify the population sampled (different stratification/sampling?) and start again! | |
| | Go to 1 |